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CLAIMS

1. Apparatus for conditioning air and fuel supplied to a combustor, characterised by comprising:

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means (5) for electrostatically charging air supplied to a combustor, at a first polarity;

means (12) for electrostatically charging fuel supplied to
10 such combustor, at opposite polarity to said first polarity;
and

means (15, 19; 20) for preheating such fuel.

15 2. Apparatus according to claim 1, characterised by being adapted to charge air at negative polarity and to charge fuel at positive polarity.

3. Apparatus according to claim 1 or claim 2, characterised
20 in that said means for electrostatically charging air comprises one or more pointed electrodes (5) adapted to be connected to electronic power supply means and extending into a duct (2, 3, 4) through which, in use, air flows to the combustor.

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4. Apparatus according to claim 3, characterised by further comprising an earthed electrode (7) within such duct (2, 3,

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4) upstream of said pointed electrode(s) (5) in the sense of flow of air through such duct.

5. Apparatus according to any preceding claim,

5 characterised in that said means for electrostatically charging fuel comprises one or more pointed electrodes (12) adapted to be connected to electric power supply means and extending into a duct (9, 10, 11) through which, in use, fuel flows to the combustor.

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6. Apparatus according to claim 5, characterised by further comprising an earthed electrode (14) within such duct (9, 10, 11) upstream of said pointed electrode(s) (12) in the sense of flow of fuel through such duct.

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7. Apparatus according to any preceding claim, characterised in that said preheating means (15, 19; 20) are located upstream of said means (12) for electrostatically charging fuel in the sense of flow of fuel to the combustor.

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8. Apparatus according to any preceding claim, characterised in that said preheating means comprise means (15, 19) for preheating such fuel by heat exchange with fluid heated by the combustor.

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9. Apparatus according to any preceding claim characterised in that said preheating means comprise electrically powered heating means (20).

5 10. Apparatus according to claim 9, characterised in that said electrically powered heating means comprise an element (20) disposed within the duct (9, 10, 11) through which, in use, fuel flows to the combustor which serves also as said earthed electrode (14).

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11. Apparatus according to claim 8, 9 or 10, characterised by further comprising control means (21, 22) adapted to operate said electrically powered heating means (20) when said fluid heat exchange means (15, 19) are ineffective to
15 preheat such fuel to a specified temperature.

12. A combustor characterised by being equipped with apparatus according to any preceding claim for conditioning air and fuel supplied to the same.

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13. A combustor according to claim 13, characterised by being an internal combustion engine.

14. A method of conditioning air and fuel supplied to a
25 combustor, characterised by comprising the steps of:

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electrostatically charging such air at a first polarity;

electrostatically charging such fuel at opposite polarity to
said first polarity; and

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preheating such fuel.

15. A method according to claim 14, characterised by being
performed by means of apparatus according to any one of

10 claims 2 to 12.